In re Patent Application of:
COHEN ET AL
Serial No. **09/885,683**
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IN THE CLAIMS

1. (currently amended) A transceiver optical subassembly comprising:

a printed circuit board having a plurality of electrical connection points thereon;

a lead frame comprising a plurality of electrical leads connected to said connection points;

a solid-state laser connected to selected ones of said plurality of electrical leads;

a first photo-detector connected to selected ones of said plurality of electrical leads; and

~~said laser and said first photo-detector each connected to selected ones of said plurality of electrical leads; and~~

a molded transparent cover member for enclosing said lead frame, said laser and said first photo-detector ~~enclosed by a cover member~~, said cover member defining ~~further comprising a partially reflective/partially transmissive~~ an inclined planar surface ~~disposed in a path of emitted light from said laser~~ and a partially cylindrical surface ~~disposed in a path of light emanating from said planar surface~~,

wherein said inclined planar surface is disposed in a path of emitted light from said laser and has a partially reflective/partially transmissive coating for separating the emitted light into a first beam passing through said cover member along a first optical path and a second beam of reflected light; and

wherein said partially cylindrical surface has a reflective coating for focusing and reflecting said reflected light onto a photo-sensitive surface of said first photo-detector providing an electronic representation of optical signals created by said laser;

whereby electrical signals supplied to said laser through said electrical leads control the lasing of said laser ~~and whereby said emitted laser light is divided with a first beam projecting outwardly from said cover member and a second beam of said laser light deflected and focused onto said first photo-sensitive surface, providing an electronic representation of optical signals created by said laser~~.

2. (currently amended) The transceiver optical subassembly of claim 1 further comprising a second photo-detector disposed adjacent said inclined planar surface with a second ~~an~~ unobstructed optical path parallel to said first ~~light~~ optical path ~~of said light passed through said planar surface~~.

3. (currently amended) The transceiver optical subassembly of claim 2, further comprising a pair of lenses disposed in and aligned with said first and second optical paths, respectively ~~light path of said light passed thru said planar surface and said optical path~~.

4. (currently amended) The transceiver optical subassembly of claim 3, further comprising a transparent glass member disposed intermediate said inclined planar ~~partially transmitting/partially reflecting~~ surface and said lenses, said transparent glass member substantially perpendicular to a central ray of said light exiting said inclined planar surface.

5. (original) The transceiver optical subassembly of claim 3 further comprising a cover enclosing a transparent member having a pair of parallel surfaces, said parallel surfaces perpendicular to a central ray of said light exiting said inclined surface.

6. (currently amended) The transceiver optical subassembly of claim 4, further comprising a ~~an optically transparent~~ subassembly housing disposed over and enclosing said laser, said photo-detectors, said inclined ~~partially transmissive~~ planar surface, said cylindrical surface, and said glass member.

7. (currently amended) The transceiver optical subassembly of claim 6 ~~5~~, wherein said ~~optical~~ subassembly housing incorporates ~~incorporating~~ said pair of lenses in a fixed position relative to said laser and said second photo-detector.

8. (original) The transceiver optical subassembly of claim 6 further comprising at least one alignment member compatibly positioned to engage a mating plug, whereby said lenses may be aligned with optical elements of said plug.

9. (currently amended) The transceiver optical subassembly of claim 8, wherein said at least one alignment member comprises a pair of pins disposed within and extending from said ~~optical~~ subassembly housing.

10. (original) The transceiver optical subassembly of claim 9 wherein said transceiver optical subassembly is assembled and sealed into a unitary structure.

11. (currently amended) The transceiver optical subassembly of claim 5, further comprises transparent fluid having an index of refraction substantially equal to said indexes of refraction of materials of which said ~~light-transmissive~~ inclined planar surface ~~member~~ and said transparent member

~~section~~ are fabricated, said transparent fluid ~~grease~~ disposed intermediate said inclined planar surface and said transparent member ~~section~~.

12. (currently amended) A transceiver optical subassembly comprising:

a printed circuit board having a plurality of electrical connection points thereon;

a lead frame comprising a plurality of electrical leads connected to said connection points;

a solid-state laser;

a first photo-detector;

said laser and said photo-detector each connected to selected ones of said plurality of electrical leads; and

a molded transparent cover member for enclosing said lead frame, said laser and said first photo-detector ~~enclosed by a cover member~~, said cover member defining ~~further comprising~~ a planar surface disposed in a path of emitted light from said laser,

whereby electrical signals supplied to said laser through said electrical leads control the lasing of said laser; and

wherein said emitted laser light is projected outwardly from said cover member, ~~and~~

wherein a second beam of ~~said~~ laser light is focused through said cover member ~~plane surface~~ onto said first photo-detector ~~photo-sensitive device~~, providing an electronic transmission and reception assembly connected to said lead frame;

wherein said planar ~~plane~~ surface is disposed at an angle forming an inclined surface, which is either acute or obtuse to the axis of said laser beam; and

wherein said planar surface has a partially reflective/partially transmissive coating thereon for separating the emitted light into light exiting said inclined

surface and reflected light.

13. (Cancelled)

14. (currently amended) The transceiver optical subassembly of claim 13, further comprising a pair of lenses disposed in and aligned with said light paths of said light passed through ~~thru~~ said planar surface.

15. (original) The transceiver optical subassembly of claim 14 further comprising a cover enclosing a transparent member having a pair of parallel surfaces, said parallel surfaces perpendicular to a central ray of said light exiting said inclined surface

16. (original) The transceiver optical subassembly of claim 15 further comprising at least one alignment member compatibly positioned to engage a mating plug, whereby said lenses may be aligned with optical elements of said plug.

17. (original) The transceiver optical subassembly of claim 16 wherein said at least one alignment member comprises a pair of pins disposed within and extending from said optical subassembly.

18. (original) The transceiver optical subassembly of claim 17 wherein said transceiver optical subassembly is assembled and sealed into a unitary structure.

19. (new) The transceiver optical subassembly of claim 13, further comprising a second photo-detector for measuring the reflected light providing an electronic representation of optical signals created by said laser.